

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
20 March 2003 (20.03.2003)

PCT

(10) International Publication Number
WO 2003/023179 A3

(51) International Patent Classification⁷: E21B 43/10

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(21) International Application Number:
PCT/US2002/025727

(22) International Filing Date: 14 August 2002 (14.08.2002)

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/25727

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : E21B 43/10
US CL : 166/380, 207

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 166/380, 207, 378, 212, 217, 242.6

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,070,671 A (CUMMING et al.) 06 June 2000 (06.06.00), figures 1 and 2.	13-15,17,18,21-23,25-31, and 33
X	US 6,085,838 A (VERCAEMER et al.) 11 July 2000 (11.07.00), figures 5-7.	1,4-7,11-19, and 21-35
X	SU 1086118 A (GARIFOV) 15 April 1984 (15.04.84), figures 1 and 2.	13-15,17-23,25-31, and 33-36

Further documents are listed in the continuation of Box C.

See patent family annex.

Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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"E" earlier application or patent published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
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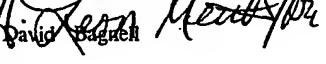
Date of the actual completion of the international search

07 October 2002 (07.10.2002)

Date of mailing of the international search report

19 FEB 2004

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